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Exam : **100-490**

Title : Supporting Cisco Routing and Switching Network Devices

Vendor : Cisco

Version : DEMO

NO.1 What are two descriptions for FTP? (Choose two.)
A. FTP loads Cisco IOS Software to a router in ROMMON mode.
B. The copy running-config ftp: command copies a configuration file from an FTP server to the running configuration.
C. A router is able to act as an FTP server.
D. FTP uses UDP as its transport protocol.
E. A Cisco router must be configured with the appropriate username and password because FTP usually requires authentication.
Answer: B,E
Explanation:
1. It is built on a client-server model architecture and uses separate control and data connections between the client and the server2. Here are the explanations for the correct answers:
* B: The copy running-config ftp: command is used to copy the running configuration from a router to an FTP server or vice versa. This is a common method for backing up and restoring configurations on Cisco devices1.
* E: FTP typically requires authentication, which means a Cisco router acting as an FTP client must be configured with the appropriate username and password to access an FTP server. This ensures secure file transfer and access control1.
The other options are incorrect because:
* A: FTP is not used to load Cisco IOS Software to a router in ROMMON mode; this is typically done using TFTP or Xmodem.
* C: While a router can act as an FTP server, this is not a description of FTP itself.
* D: FTP uses TCP as its transport protocol, not UDP. FTP needs the reliability that TCP provides because it ensures the complete and accurate transfer of files1.

NO.2 Which bits represent the boot field in the configuration register value?
A. highest four bits
B. lowest two bits
C. highest two bits
D. lowest four bits
Answer: D

NO.3 What is the Windows-based program that executes the ping command to test network connectivity?
A. cmd
B. Find
C. Start
D. ipconfig
Answer: A
Explanation:
The cmd program, also known as the Command Prompt, is the primary command-line interface in Windows. It allows you to execute various commands, including the ping command, to perform network testing and troubleshooting.
Here's how to use ping in the Command Prompt:

Open the Command Prompt: Search for 'cmd' in the Windows Start Menu or use the Run dialog (Windows key + R) and type 'cmd'.
Type the ping command: Enter ping followed by a space and then either the IP address or hostname you want to test. For instance: ping 8.8.8.8 or ping www.google.com.
Press Enter: The Command Prompt will send ping requests and display the results.
Why other options are incorrect:
Find: The Find utility in Windows is used to search for files and folders based on their content or attributes.
Start: The Start Menu in Windows provides access to programs, settings, and power options.
ipconfig: The ipconfig command is used to display network configuration information but doesn't directly execute the ping command.
Reference:
Windows Command Prompt (cmd): https://en.wikipedia.org/wiki/Cmd.exe
Ping command: https://en.wikipedia.org/wiki/Ping_(networking_utility)

NO.4 TFTP is a simple protocol for transferring files, such as a Cisco IOS or configuration file, from one device to another. Which device can be configured as a TFTP server?

A. Cisco Content Engine

B. modem

C. Cisco router

D. CSU/DSU

Answer: C

Explanation:
Cisco routers can be readily configured to act as TFTP servers, allowing them to provide Cisco IOS images or configuration files to other devices. Here's why this is the correct answer:
Software Support: Cisco IOS includes built-in support for the TFTP protocol, making it easy to set up a TFTP server on a router.
Storage Capacity: Routers typically have flash memory where IOS images and other files can be stored, making them suitable repositories for TFTP transfers.
Network Accessibility: Routers play a central role in networks, making them an accessible location for TFTP file transfers.
Why other options are incorrect:
Cisco Content Engine: Content Engines are specialized network appliances designed for caching and accelerating web content delivery. They typically don't have functionality for acting as generic TFTP servers.
Modem: Modems primarily modulate/demodulate signals to facilitate communication over traditional telephone lines. They lack the software capabilities to run a TFTP server.
CSU/DSU: Channel Service Unit/Data Service Units are devices used to interface with digital leased lines. They don't possess the necessary software to run a TFTP server.

NO.5 Which Xmodem option is used to enhance error checking of an image that is copied to flash memory?

A. -e

B. -r

C. -c

D. -x

Answer: C

Explanation:

The -c option in Xmodem file transfers is used to enable CRC (Cyclic Redundancy Check) for enhanced error checking. Here's why it's the correct answer:

Error Detection: CRC is a more robust error detection mechanism compared to the standard checksum method used in Xmodem. It provides greater reliability in identifying file corruption during the transfer.

Flash Memory: Since flash memory on a Cisco router or switch stores critical data like configuration files or the IOS image, ensuring the integrity of transferred files is crucial.

Why other options are incorrect:

-e, -r, -x: These are not standard Xmodem options for error checking purposes. While some implementations may have custom flags, they are not universally applicable.

Important Note: Xmodem is a legacy protocol that is often replaced by more reliable options like TFTP in modern Cisco devices. However, understanding Xmodem options is still relevant for certain cases or older equipment.

Reference:

Xmodem overview: https://en.wikipedia.org/wiki/XMODEM

Cyclic Redundancy Check (CRC): https://en.wikipedia.org/wiki/Cyclic_redundancy_check

NO.6 Which two pairs of LAN Ethernet devices use an RJ-45 straight-through cable? (Choose two.)

A. switch-to-switch

B. switch-to-router

C. switch-to-hub

D. router-to-router

E. switch-to-server

Answer: B,E

Explanation:

Questions no : 12 Verified answer:

B: switch-to-router, E: switch-to-server

Switch-to-Router: A switch connects devices within a network by using MAC addresses to forward data to the correct destination. A router, on the other hand, connects multiple networks and uses IP addresses to determine the best path for the data packets. Connecting a switch to a router requires a straight-through cable because they are different types of devices12.

Switch-to-Server: Servers are the powerful computers that provide resources, data, services, or programs to the client machines in the network. When connecting a switch to a server, a straight-through cable is used because the switch and the server are different types of devices with different functions within the network12.

NO.7 Which Cisco CPAK 100GBASE module supports Multimode Fiber cable?

A. Cisco CPAK-100G-CWDM4

B. Cisco CPAK-100G-LR4

C. Cisco CPAK-100G-ER4L

D. Cisco CPAK-100G-SR4

Answer: D

Explanation:
The Cisco CPAK-100G-SR4 module is designed to support Multimode Fiber (MMF) cable. It is specifically engineered for high-bandwidth 100G optical links and supports link lengths of up to 70 meters over OM3 and 100 meters over OM4 Multimode Fiber with MPO connectors. This module is well-suited for short-range, high-speed data communications and data center applications where Multimode Fiber is typically used due to its ability to handle the large amount of data traffic over relatively short distances. Reference := Cisco CPAK 100GBASE Modules Data Sheet